

Remarks

Claims 1-17 were pending in the application and were rejected. By this paper, claims 1, 12 and 13 have been amended, and reconsideration of the claims is respectfully requested. Furthermore, new claims 18-20 have been added.

Claim Objection

Claim 1 was objected to because the Examiner believes the recitation of a first opening in a wheel is unclear. In addition, the Examiner objected to claim 1 because of the recitation of "a second opening of a housing with a first opening in the housing never being anticipated." Applicant respectfully disagrees with the Examiner's assertion that these recitations are unclear. The terms "first opening" and "second opening" were merely used to distinguish the openings from each other.

Although the terms "first opening" and "second opening" are believed to be clear, these terms have each been replaced with the term "opening" in each of the independent claims. This amendment is not intended to narrow the scope of the claims in any way.

Double Patenting Rejection

Claims 1-17 were provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-12 of co-pending Application Serial No. 10/692,975. As stated by the Examiner on pages 2-3 of the Office Action:

Although the conflicting claims are not identical, they are not patentably distinct from each other because the cited application teaches all the basic features of the claimed invention. Except the fastener as claimed in the claims herein is disclosed in the cited application [as] *sic* a clip. Although the current application sets forth a fastener, it would have been obvious to one having ordinary skill in the art at the time the invention was made to

interpret the clip and fastener as elements that provide the same function of attaching a tire monitoring apparatus and valve stem together.

Applicant respectfully traverses this rejection. Each independent claim of the present application requires a threaded fastener that is engageable with a threaded portion of a tire valve stem (claims 1 and 13) or tire inflator valve assembly (claim 12) and a spherical surface of a tire monitor housing, while each independent claim of the cited application requires a clip that is configured to be inserted into an aperture of a tire valve stem (claim 1) or tire inflator valve assembly (claim 12). None of the claims of the cited application requires a threaded fastener that is engageable with a tire valve stem, or tire inflator valve assembly, and a spherical surface of a tire monitor housing. Furthermore, although the threaded fastener of the present application and the clip of the cited application may each be used to attach together a tire monitor and a valve stem, as noted by the Examiner, this does not render the claimed threaded fastener obvious over the clip, especially since the two elements function in different ways. Thus, the double patenting rejection is believed to be improper and should be withdrawn.

Rejection Under 35 U.S.C. § 102

Claim 1 was rejected under § 102(b) as being anticipated by U.S. Patent No. 6,055,855 to Straub ("Straub"). Applicant respectfully traverses this rejection.

Claim 1 requires a tire monitor housing having a spherical surface and a threaded fastener that is engageable with a threaded portion of a tire valve stem. Furthermore, claim 1 requires that the fastener have "a spherical surface that engages the spherical surface of the housing when the fastener is engaged with the threaded portion of the valve stem." Contrary to the Examiner's assertion, Straub does not disclose a tire monitor having a housing with a spherical surface, nor a threaded fastener having a spherical surface that engages such a housing. Instead, as noted in column 2, lines 31-34, Straub discloses a nut 30 having "a cylindrical face surface 62 with a curvature corresponding to the curvature of the cylindrical

surface 25b of the housing portion 21a.” Thus, the § 102(b) rejection of claim 1 is improper and should be withdrawn.

Rejection Under 35 U.S.C. § 103

Claims 2-17 were rejected under § 103(a) as being unpatentable over Straub. Applicant also respectfully traverses this rejection.

Because claim 2-11 depend from claim 1, which is believed to be allowable, these claims are also believed to be allowable. Furthermore, these claims recite additional features that are also not disclosed in Straub. For example, claim 2 requires that the fastener include “a base portion and a multiple spaced apart projections extending from the base portion, each projection having a spherical surface that is engageable with the spherical surface of the housing.” As another example, claim 5 requires that the projections of claim 2 “cooperate to provide at least three points of contact with the spherical surface of the housing when the fastener is engaged with the threaded portion of the valve stem.” As noted by the Examiner, these features are not disclosed in Straub.

Claim 12 is directed to a tire monitoring apparatus for mounting on a vehicle wheel that is configured to have a tire mounted thereon and that has a first opening. Claim 12 requires that the apparatus comprise:

- a tire monitor for sensing pressure in the tire, the tire monitor having a housing with a spherical surface, the housing further having a second opening that extends through the spherical surface;

- a tire inflator valve assembly that is configured to extend through the first and second openings, the valve assembly having a longitudinal axis and a threaded portion; and

- a threaded fastener that is engageable with the threaded portion of the valve assembly for attaching together the tire monitor and the valve assembly, the fastener including a base portion having first and second ends, the fastener further including multiple spaced apart first projections extending from the first end of the base portion, and multiple spaced apart

second projections extending from the second end of the base portion, each projection having a spherical surface, wherein the spherical surfaces of the first projections are configured to provide at least three first points of contact with the spherical surface of the housing when the first end of the base portion of the fastener is facing toward the spherical surface of the housing and the fastener is engaged with the threaded portion of the valve assembly, such that the first points of contact lie generally in a plane that is generally perpendicular to the axis of the valve assembly, and wherein the spherical surfaces of the second projections are configured to provide at least three second points of contact with the spherical surface of the housing when the second end of the base portion of the fastener is facing toward the spherical surface of the housing and the fastener is engaged with the threaded portion of the valve assembly, such that the second points of contact lie generally in a plane that is generally perpendicular to the axis of the valve assembly.

As noted by the Examiner, Straub fails to disclose this combination of features. Furthermore, the Examiner's assertion that "it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the valve stem and fastener in the most appropriate and feasible configuration to detain the fastening structure for the purpose of mating the tire monitoring apparatus to the valve" is a conclusory statement that is simply not supported by the cited reference. Therefore, the § 103(a) rejection of claim 12 is improper and should be withdrawn.

Claim 13 requires a tire monitor having a housing with a spherical surface, and a threaded fastener "having a configuration that provides at least three points of contact with the spherical surface of the housing when the fastener is engaged with the spherical surface of the housing." As noted by the Examiner, Straub does not disclose this combination of features. As previously noted, Straub discloses a threaded nut 30 having "a cylindrical face surface 62 with a curvature corresponding to the curvature of the cylindrical surface 25b of the housing portion 21a" (see column 2, lines 31-34, of Straub). At best, such a configuration provides two points of contact between nut 30 and housing portion 21a. Furthermore, the Examiner's assertion that "it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the valve stem and fastener in the most

appropriate and feasible configuration to detain the fastening structure for the purpose of mating the tire monitoring apparatus to the valve" is a conclusory statement that is simply not supported by the cited reference. Thus, the § 103(a) rejection of claim 13 and the associated dependent claims is improper and should be withdrawn.

New Claims


New claims 18-20 have been added for consideration by the Examiner.

Conclusion

Applicant has made a genuine effort to respond to each of the Examiner's objections and rejections in advancing the prosecution of this case. Applicant believes that all formal and substantive requirements for patentability have been met and that this case is in condition for allowance, which action is respectfully requested. If any additional issues need to be resolved, the Examiner is invited to contact the undersigned at his earliest convenience.

Respectfully submitted,

Michael A. Uleski

By 
Mark E. Stuenkel
Reg. No. 44,364
Attorney/Agent for Applicant

Date: January 18, 2005

BROOKS KUSHMAN P.C.
1000 Town Center, 22nd Floor
Southfield, MI 48075-1238
Phone: 248-358-4400
Fax: 248-358-3351